

WHAT IS CLAIMED IS:

1. A system for providing data content to a plurality of mobile platforms via at least one satellite having at least one radio frequency (RF) transponder, and for transmitting data content from said mobile platforms via said RF transponder to a ground-based control center.

5 an independent mobile system associated with each said mobile platform and carried by each said mobile platform;

a ground-based antenna system associated with said ground-based control center for transmitting encoded RF signals representative of said data content via said RF transponder to said mobile system;

10 each said mobile system comprising:

a steerable transmit antenna and a steerable receive antenna;

a communications subsystem responsive to each of said antennas for generating baseband video signals and data signals from said encoded RF signals received by said receive antenna, and for producing encoded RF signals from data transmissions input by each of a plurality of occupants;

15 a data content management system for filtering of portions of said data content not addressed to occupants
20 on said mobile platform;

5 a network for distributing said baseband video signals and said data signals output from said data content management system to said occupants, said network including a plurality of access stations whereby individual occupants receive only specific subportions of said baseband video signals and said data signals relating to previous information selections made by said occupants; and

10 said independent mobile system also operating to transmit said signals input by each of said occupants from each of said access stations, via said RF transponder, to said ground-based antenna.

2. The system of claim 1, wherein said access stations are adapted to be coupled to personal computing devices operated by each of said occupants.

3. The system of claim 1, wherein said data content management system comprises a file server.

4. The system of claim 1, wherein said satellite comprises a plurality of RF transponders, and wherein said ground based control center designates one of said

transponders to communicate in dedicated fashion with a designated one of said mobile platforms.

5. The system of claim 1, wherein said network comprises a local area network.

6. A system for providing real time video signals to a mobile receiving platform via a satellite having at least one radio frequency (RF) transponder, the system comprising:

a ground based system for transmitting RF signals representative of said video

5 signals to said satellite;

a mobile receiving system disposed on said mobile receiving platform comprising:

an antenna for receiving said RF signals from said RF transponder;

10 an antenna control system for use in steering said antenna to track said satellite as said mobile receiving platform is in motion;

a communications system responsive to signals received by said antenna for generating baseband video signals in accordance therewith;

15 a data content management system responsive to said communications system for determining which portions of said baseband video signals are to be transmitted to each of a plurality of access stations on said mobile receiving platform for viewing by individuals
20 on said mobile receiving platform; and

5 a distribution system for routing said portions of
said baseband video signals to specific ones of said
access stations in response to requests by said
occupants, such that each said occupant receives only a
portion of said baseband video signals in accordance with
said request made by each said occupant.

7. The system of claim 6, wherein said communications system comprises
a plurality of integrated receiver/decoders for decoding, demodulating and digital-to-
analog converting received RF signals into said baseband video signals.

8. The system of claim 6, wherein said data content management system
comprises a server.

9. The system of claim 6, wherein said baseband video signals represent
live television signals.

10. The system of claim 6, wherein said baseband video signals represent
direct broadcast television signals.

11. The system of claim 6, wherein said ground based system comprises a network operations center for managing accounting and billing operations associated with access to the system by each user.

12. The system of claim 6, wherein said ground segment operates to transmit encoded data signals to said transponder of said satellite; and

wherein said communications system operates to de-modulate and D/A convert said RF signals to produce said baseband data signals.

5 sub a 27 13. A system for supplying a plurality of channels of data content to a plurality of independent mobile receiving platforms, wherein each said mobile receiving platform has a plurality of occupants, and for receiving data content transmitted from said mobile receiving platform by said occupants, said system

5 comprising:

a ground based antenna for transmitting encoded radio frequency (RF) signals representing said data content;

10 at least one satellite having a plurality of RF transponders in orbit over a desired geographical coverage area within which said mobile platforms are travelling, for transponding said encoded RF signals;

a mobile receiving system disposed on each said mobile receiving platform, each said mobile system comprising:

15 an antenna system including a receive antenna for receiving said encoded RF signals from a designated one of said RF transponders;

a transmit antenna for transmitting said data content to a designated one of said RF transponders;

20 an antenna control system for steering said transmit and receive antennas to track said satellite as said mobile receiving platform is in motion;

a communications system responsive to said

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encoded RF signals received by said receive antenna for
demodulating and decoding said encoded RF signals to
produce baseband video signals and data signals;

5 said communications system including a system for
transmitting data content from each of said occupants, via
said transmit antenna, to said designated one of said
transponders;

10 a data content management system responsive to
said receiver system for determining which portions of
said baseband video signals and which portions of said
data signals are to be transmitted to specific ones of a
plurality of access stations on said mobile receiving
platform for use by said occupants of said mobile
receiving platform; and

15 a network system for routing said portions of said
baseband video signals and said data signals to specific
ones of said access stations in response to requests by
said occupants, such that each said occupant receives
only a requested portion of said baseband video signals
20 or a requested portion of said data signals.

14. The system of claim 13, wherein said communications system comprises a plurality of integrated receiver/decoders.

15. The system of claim 13, wherein said data content management system comprises a server.

16. The system of claim 13, further comprising a data system for supplying crew information services to said data content management system.

17. The system of claim 13, further comprising an air telephone system on board said mobile platform for transmitting data services to at least one ground based voice telephony receiving station within said coverage area.

18. A system for enabling individual occupants on board a moving platform to transmit and receive data content in real time from a ground based data source, said system comprising:

a ground based system for transmitting radio frequency (RF) signals
5 representative of said data content obtained from a data content source;

a satellite system having at least one RF transponder for transponding RF signals received from said ground based system to said mobile platform, and transponding RF signals received from said moving platform to said ground based system;

10 a mobile communications system disposed on said mobile platform including;

a receive antenna for receiving RF signals from
said RF transponder;

a transmit antenna for transmitting RF signals to
said RF transponder;

15 a communications subsystem in communication
with said receive antenna and said transmit antenna for
converting said received RF signals into data content, and
for converting user data transmitted by said occupants
into RF signals to be transmitted by said transmit antenna
20 to said RF transponder; and

a data content management system for receiving
said data content from said communications subsystem
and determining which subportions of said data content is
to be distributed to specific ones of said occupants; and

5 a distribution system for distributing said
subportions of said data content to said occupants such
that each said occupant receives only specific ones of
said subportions of said data content in accordance with
previous information transmissions made by each said
10 occupant.

19. The system of claim 18, wherein said distribution system comprises a local
area network (LAN).

20. The system of claim 18, wherein said distribution system further comprises
a plurality of independent access stations capable of interfacing with an electronic
device of an occupant of said mobile platform.

5usa37 21. A system for facilitating bi-directional communication between a ground-based control center and a plurality of mobile platforms, of data content via a satellite having a plurality of (RF) transponders, said system comprising:

a ground based antenna for transmitting encoded RF signals from said ground-based control center representing said data content;

a mobile receiving system disposed on each said mobile receiving platform, each said mobile receiving system comprising:

a steerable receive antenna for receiving said encoded RF signals from a designated one of said RF transponders of said satellite;

an antenna control system for steering said receive and transmit antennas to track said satellite as said mobile receiving platform is in motion;

a communications system responsive to said encoded RF signals received by said receive antenna for generating output signals representative of live television programming and Internet data;

a server responsive to said communications system for filtering off said portions of said live television programming and portions of said Internet data representing data content which have not been requested

by any of said occupants, and filtering off portions of said
data content not directed to any occupant of said aircraft;
and

a network system for routing said portions of said
output signals and portions of said Internet data to specific
ones of a plurality of access stations in accordance with
inputs made at said access stations by each of said
occupants.

22. The system of claim 21, wherein said steerable receive antenna
comprises an electronically steerable, phased array antenna.

23. A method of transmitting data content between a mobile receiving platform and a ground-based control segment, comprising the steps of:

using a ground-based antenna associated with said ground-based control segment to transmit encoded radio frequency (RF) signals corresponding to said data

5 content;

using a satellite having a plurality of transponders to receive said encoded RF signals and to transpond said encoded RF signals, via one of said transponders designated by said ground-based control segment, to said mobile receiving platform;

10 using a steerable antenna carried by said mobile receiving platform to receive said encoded RF signals;

causing said steerable antenna to track said satellite as said mobile receiving platform is in motion to thereby maintain constant radio frequency contact with said satellite;

15 decoding and demodulating said encoded RF signals to produce a plurality of data signals representative of said data content;

filtering off said data signals that have not been requested by any occupant of said mobile platform to produce a limited subset of data content;

20 distributing selected portions of said subset of data content to access stations associated with said occupants in accordance with requests of each said occupant such that each said occupant receives only selected portions of said subset of data

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